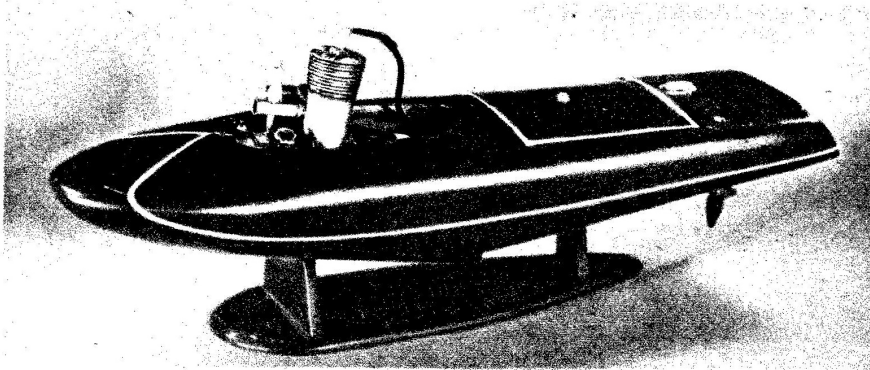


CRAFTWORK

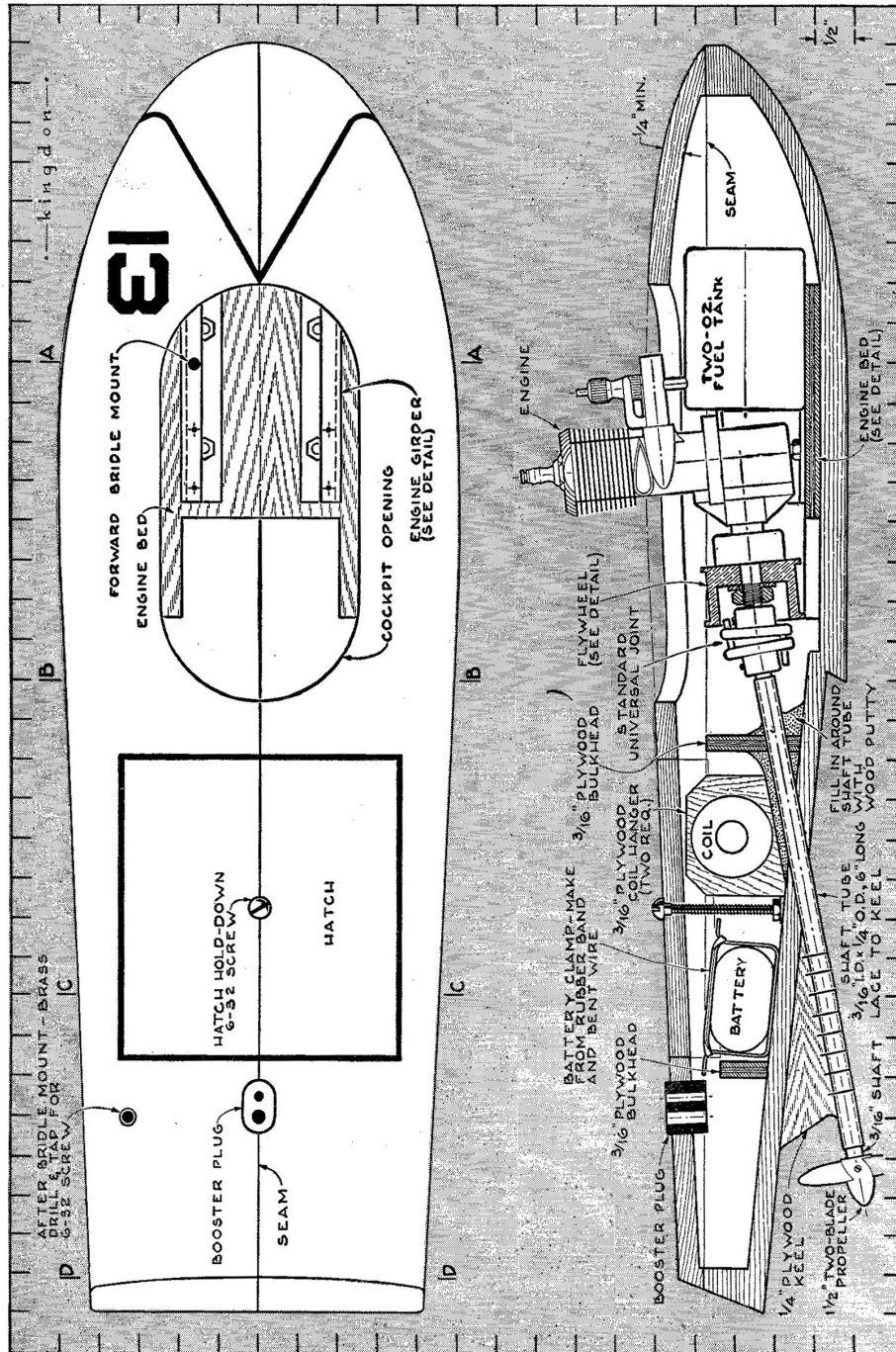
PROJECTS OF THE MONTH

Illuminated Garden. Here's something to whet your tinsnips for. Made of polished copper or brass, a "planter's lamp" adds that touch of living greenery prized by homemakers. It makes an impressive gift, too. You'll find how-to-build plans starting on page 164 of this issue.



Engine Planes Tiny Boat. You don't need to bother with laborious planking methods to build this 16-inch speedboat; its

hull is made of easily shaped balsa blocks. A model gas engine powers it at a fast clip in the water. See page 176 for details.





Gas Engine Planes Tiny Balsa Speedboat

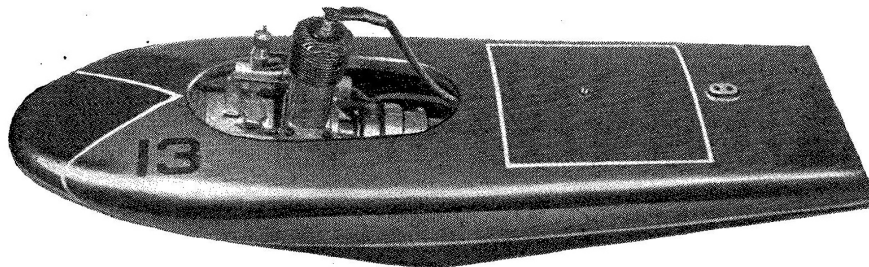
An ideal beginner's boat, this racer will climb up on the step and go all out at the end of a 35' tether line.

By Al Spampani & Kip Yandoli

FOR newcomers to the royal sport of building model power boats, this little speedboat is an ideal first project. It is only 16" long, about as small as it is practicable for a boat to be and still perform respectably. Shaped from solid balsa blocks, it doesn't

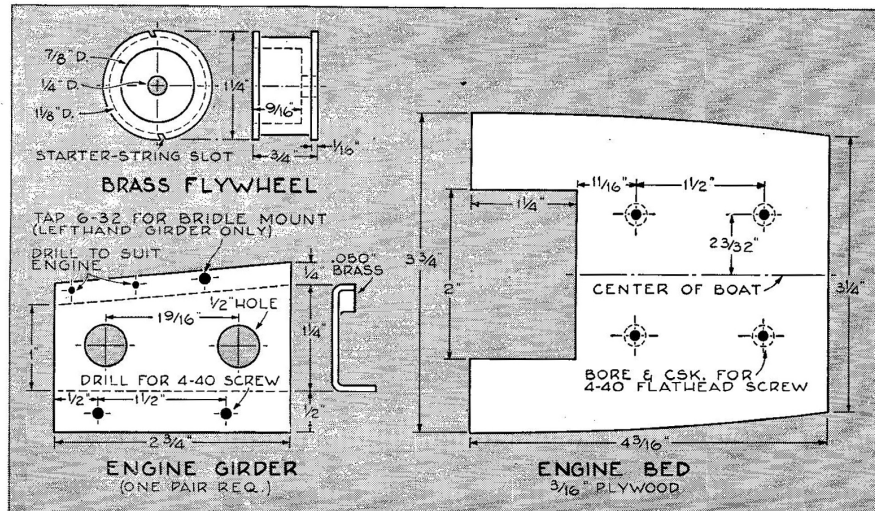
call for the tedious work involved in built-up or planked construction. The fittings can be made up in an hour or two in the shop, or can be purchased at a nominal cost in hobby stores. No stuffing box is required, since the top of the propeller shaft is above the waterline. The engine shown is an Ohlsson 23, but any Class B model-plane engine will be entirely suitable.

Select two $\frac{3}{4}$ " by 3" by 16" balsa blocks for the upper hull and two 2" by 3" by 16" blocks for the lower hull. Cement the blocks together *lightly* (applying the glue at just

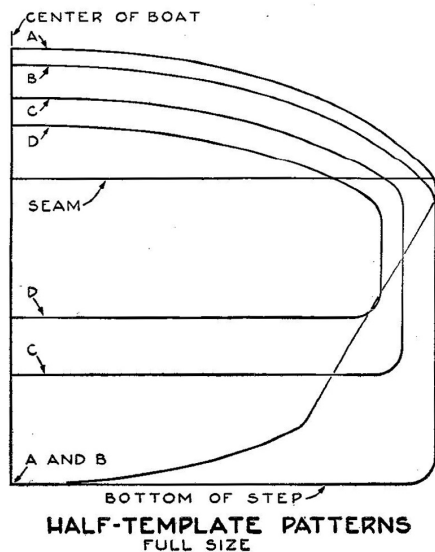


Compact and trim, this model will do you proud both in the test basin and on the mantel.

Minor weight adjustments for best planing position are made by cementing lead scraps inside.



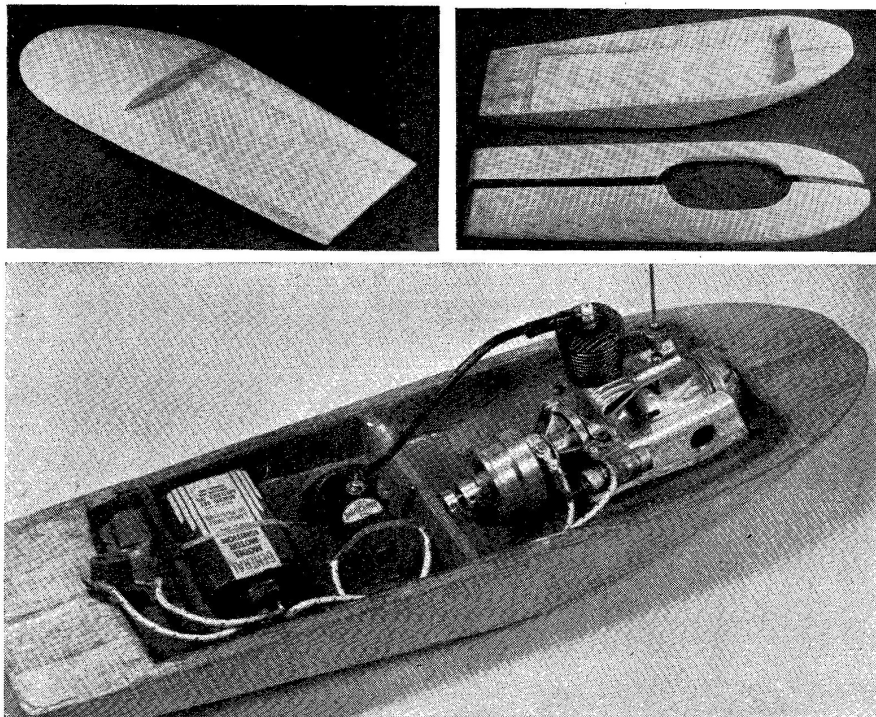
a few points), trace on the side view, and saw out and sand to the outline. Lay out the top view and cut and sand this also. Make a set of section templates from the drawing below, and with them as guides sand the hull to shape. Then separate the four blocks and hollow them out to the wall thicknesses shown. Applying cement liberally, permanently join together the two lower hull blocks and also the two upper hull blocks, but do *not* at this time cement together the upper and lower parts.



Coat the inside of the lower hull block with at least 10 coats of dope to insure a waterproof finish. Cut out the engine bed from $\frac{3}{16}$ " plywood and drill holes for small bolts to hold the engine girders. The latter are bent up from .050" or $\frac{1}{16}$ " sheet brass and adapted to suit the engine you use. Solder two nuts to the underside of each upper girder flange to receive the engine-mounting screws; this will facilitate later removal of the engine for maintenance. Then bolt the girders to the bed and dope the latter liberally. When you have checked on the flywheel clearance and shaft alignment, cement the bed securely to the hull.

The flywheel is turned from $1\frac{1}{4}$ " round brass. In the model shown a combined shaft nut and coupling was also made from scrap brass, but if you don't have access to a metal-cutting lathe, these fittings can be purchased from model-supply houses at small cost. Cut out the triangular plywood keel, drill a hole for the shaft tube, and cement keel and shaft tube in place, taking pains to get the best possible alignment between engine and shaft. Lash the tube to the keel with strong thread, bedding the inner portion of the tube in plastic composition wood. Fit a $1\frac{1}{2}$ " two-bladed racing prop to the shaft and test the assembly for free turning. If it binds at any point, minor adjustment of the coupling or engine girders, or shimming the engine on its mount, will usually correct the trouble.

Aft of the coupling, install a bulkhead to keep the ignition compartment dry. Cement



the coil supports in place, bend a battery holder from music wire, and solder up the connections for a conventional ignition circuit. Paint all wires with a few coats of dope. Install a 2- or 3-oz. fuel tank with a spring-type filler cap, and cement in the after-bridle mount, which is simply a vertical brass rod tapped to take a 6-32 screw.

Returning to the top hull block, cut out the flattened ellipse to clear the engine and the rectangular hatch-cover aperture. Take pains to get a clean, snug fit to the hatch, which is retained by a 6-32 screw threaded into a nut cemented to the bottom of the hull. Dope the underside of the upper hull block liberally and cement the upper block permanently to the hull (first making sure you have clearance to remove the engine).

With the motor removed, sand the entire outside of the hull carefully, fill it with a mixture of clear dope and talcum powder, and sand until it has a glasslike finish. A light coat of lacquer surfacer is then sprayed on, and the hull gently sanded once more with No. 400 abrasive paper. At this point the original boat was sprayed with metallic maroon below the waterline and metallic

blue above, separated by a white pin stripe, but of course colors to suit your own taste should be employed. Finally, give the entire hull a light coat of wax.

Make up a bridle of .015" music wire fitted at each end with an eye to be retained by the bridle-mount screws. Attach the bridle to about 35' of line (strong fish-line will do) and connect the other end of the line to a stake that can be driven into the bottom of the pond. Provide a central pivot that will prevent the line from winding up on the stake. With all running gear secured, fill up the fuel tank, plug in the booster batteries, and start the engine with a starting cord wound around the flywheel. Adjust the mixture and spark until the engine is running properly and then hold the boat in the water and readjust to correct for the increased propeller load. When she's running right, let 'er go.

After a turn or two, with a properly adjusted engine and bridle, the boat will climb up on the step and really move. Then your chief worry will be shooing off neighborhood dogs that take the boat for a seagoing rabbit.

END